

NIDIS CAROLINAS SEAFOOD SAFETY FORECAST

NOTE: *This project description is expected to evolve as we gather more expert and stakeholder input*

Committee:

- Patricia Fowler, North Carolina Shellfish Sanitation
- Chip Konrad, Southeast Regional Climate Center, Dept. of Geography, Univ. of North Carolina at Chapel Hill
- Maggie Kovach, Southeast Regional Climate Center, Dept. of Geography, Univ. of North Carolina at Chapel Hill
- Doug Locklear, Lumbee Tribe of North Carolina
- Dwayne Porter, Dept. of Environmental Health Sciences, Public Health Research center, Univ. of South Carolina
- Queen Quet, Gullah/Geechee Nation
- Geoff Scott, NOAA Center for Coastal Environmental Health and Biomolecular Research
- Lauren Thie, Occupational and Environmental Epidemiology Branch, Division of Public Health, NC Dept. of Health and Human Resources
- Jess Whitehead, South Carolina Sea Grant Consortium/North Carolina Sea Grant

Goal: Provide an early warning system for commercial, recreational and subsistence fishermen who harvest drought-sensitive seafood in both fresh and salt waters in the coastal regions of the Carolinas.

Background: During drought, freshwater flows are reduced and water temperatures rise. Impacts of these changes can include:

- Increases in concentrations of pollutants
- Increases in salinity
- Changes in pH
- Increases in harmful algal blooms (HABs)
- Increases in shellfish predator populations
- Increases in *Vibrio* bacteria and Cyanobacteria

All of these changes, among others not listed here, can have harmful effects on seafood.

Questions to consider and Participant Comments:

- 1) Suggested ways to communicate the impact of drought to the seafood community and various stakeholders include
 - a. Tying low-flow measurements and drought indices to changes in coastal ecosystems that negatively affect seafood health
 - b. Using drought forecasts and low-flow forecasts to develop a tool that communicates seafood safety risks to various sectors and communities

- 2) Participants indicated a need to determine if there are monitoring gaps that need to be filled in order to provide an adequate assessment of freshwater and saltwater conditions.
- 3) A number of existing seafood safety programs were noted at the workshop and there may be others that should be investigated (see Potential Partnerships below). Determining opportunities to build on these existing resources and key partnerships was noted as a next step in development of the pilot project.
- 4) In addition to determining existing resources to build upon, stakeholder engagement to determine groups or communities for whom a seafood safety forecast will be beneficial was noted during the workshop.
- 5) Participants suggested using citizen science as a way to engage community stakeholders in the project. Next steps might include determining what opportunities exist for citizen science. One participant cited a similar national scale effort that was unsuccessful due to low input. Determining the best means for community education and outreach was indicated as an additional step in this process in order to share the importance of their input to the process if citizen science will be used as a data gathering tool.

Potential partnerships:

NC and SC Sea Grant Extensions

Monitoring station on SC piers

Southeast Coastal Ocean Observing Regional Association (SECOORA, <http://secoora.org/>) – data portal for coastal information (both NC and SC have branches)

Lumbee stakeholders

North Carolina Department of Health and Human Services (<http://www.ncdhhs.gov/index.htm>)

State and Federal fisheries

Fish farms

NC Shellfish Sanitation

HACCP

Gullah/Geechee Fishing Association

NOAA/NWS/Southeast River Forecast Center

SC Department of Health and Environmental Control (DHEC), Shellfish Sanitation Program Manager, Mike Pearson

SC DHEC Bureau of Water, Director of Water Monitoring, Assessment & Protection, Chuck Gorman

Synergies with other NIDIS-Carolinas projects:

The drought indicators/indices project was noted by workshop participants as having a particularly useful synergy with the seafood safety pilot.

Next steps:

Establish a steering committee

Steering committee planning calls and brainstorming

Reach out to fishing groups

Plan a workshop for stakeholder input